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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,386

02/24/2004

Shailender Chaudhry

SUN-P9322CIP1

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08/10/2006

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EXAMINER

MOORE, PATRICK M

ART UNIT

PAPER NUMBER

2188

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,386	<b>Applicant(s)</b> CHAUDHRY ET AL.	
	<b>Examiner</b> Patrick M. Moore	<b>Art Unit</b> 2188	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/14/04 &amp; 11/18/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. Claim 1 has been examined.

### *Information Disclosure Statement*

2. The information disclosure statements (IDS) submitted on 14 July 2004 and 18 November 2004 have been considered by the examiner.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Gharachorloo et al. (US PGPub # 2002/0083274), herein Gharachorloo.

- a. **As per Claim 1**, Gharachorloo discloses an apparatus for supporting one or more servers on a single semiconductor chip **[Figure 1, #102 & 'single chip multiprocessor' as per ¶0044]**, comprising: a plurality of first-level translation lookaside buffers on the single semiconductor chip **[Figure 1, #108, #110 & 'TLBs' as per ¶0053]**, wherein each first-level translation lookaside buffer is associated with a processor core of a plurality of processor cores on the single semiconductor chip **[directly connected to dedicated cache modules as per ¶0045]**; and a second-level translation lookaside buffer that is coupled to the

plurality of first-level translation lookaside buffers **[Figure 1, #114 & ¶0053]**;  
wherein an access to a page table entry in main memory by a processor core  
associated with a first-level translation lookaside buffer can be stored in the  
second-level translation lookaside buffer before being forwarded to the first-level  
translation buffer associated with the processor that requested the page table  
entry **[data transported through the L2 cache as per ¶0145]**; whereby storing  
the page table entry in the second-level translation lookaside buffer eliminates a  
need to refer to main memory to access the same page table entry if another  
processor requests the same page table entry **[data being sourced from the L2  
cache as per ¶0145]**.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Horne et al. (US Patent # 5,237,694) discloses a locking buffer for allowing access to exclusive, critical processes employed on a plurality of single chip processors. Brayton et al. (US Patent # 5,623,628) discloses a multi-level hierarchical memory that promotes a non-blocking request queue.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick M. Moore whose telephone number is (571) 272-1239. The examiner can normally be reached on M-F 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabahn can be reached on (571) 272-4210. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PMM

*Mano Padmanabhan*  
2/6/06

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SUPERVISORY PATENT E.